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Remarks

Claims 1-17 are pending in the application as originally filed.

Claim Objection

Regarding the objection to claim 2, the applicants disagree with the Examiner's position that the desire grade cannot include measuring the grade of the soil at the construction site receiving the concrete being level. In fact, in some circumstances, the desired grade is the grade of soil at the construction site receiving the concrete being level. Again, the Examiner is reminded that while it is appropriate to use the specification to determine what the applicants intend a term to mean, a positive limitation from the specification cannot be read into a claim that does not impose that limitation. See, e.g., *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997)(Office personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure), and *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.").

Clearly, there is not a question as to what the term "desired grade" means, only to its scope. The Applicants also disagree with the Examiner that there is no limit to the various different "desired grades" that can be measured and stored. Clearly, as the gravity-based slope

sensor is provided to the screed head, the desire grade is limited to the various different "desired grades" that can be measured by the gravity base sense provided to the screen head. Obviously, if the screen head is benched to the soil at the construction site receiving the concrete being level, and the operator wishes for that grade of the soil to be the "desired grade" than the cross-slope of the gravity based sensor is stored in memory. If, however, a benching tool is being use, and the operator wishes for the grade of the benching tool to be the "desired grade" than the screed head is benched to the tool and the cross-slope of the gravity based sensor is stored in memory. In still other circumstances, the screen head can be benched to other sections of work surfaces, wooding forms, etc., to which the operator may select as the "desired grade." The "desired grade" may also be the position at which the laser receivers receive the elevational reference, indicating that the screed head is positioned at the correct height and orientation. Clearly, in view of the above examples, the "desired grade" may be the current transverse grade of the gravity-base cross slope sensor, but it also may be a grade selected by the operator by moving the screed head until the "desired grade" is measured by the gravity based cross slope sensor.

Accordingly, the applicants again assert that to one skilled in the art the term "desired grade" is precise, clear, correct, and unambiguous, and need not be so limited by importing limitations from the specification into the claims unnecessarily as suggested by the Examiner. As this objection is improper for the above noted reasons, withdrawal is again respectfully requested.

Rejections under §103

Claims 1 and 2 are rejected under 35 USC 103(a) as being unpatentable over Hohmann, Jr. (US 5,556,226) in view of Clegg (US 4,807,131) and Burgin (US 3,816,937). Claims 3-5, 7-11 and 13-37 are rejected as being unpatentable over Hohmann, Jr. in view of Clegg. Claims 6 and 12 are rejected as being unpatentable over Hohmann, Jr. in view of Clegg and Heiser et al (US 4,925,340). These rejections are respectfully traversed in view of the following comments.

In order to establish a *prima facie* case of obviousness, the Examiner has the burden of showing, by reasoning or evidence, that: 1) there is some suggestion or motivation, either in the reference itself or in the knowledge available in the art, to modify that reference's teachings; 2) there is a reasonable expectation on the part of the skilled practitioner that the modification or combination has a reasonable expectation of success; and 3) the prior art reference must teach or suggest all of the claim limitations. Both the teaching or suggestion and the reasonable expectation of success must be found in the prior art and not based on an applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); see also, MPEP 2142.

In carrying this burden, the Examiner "must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious." *Ex parte Clapp*, 227 USPQ 972, 973 (PTOBPAI 1985). The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). A rejection based on §103 clearly must rest on a factual basis, and these facts must be interpreted without hindsight reconstruction of the invention from the prior art. *In re Warner*, 154 USPQ 173, 178 (CCPA 1967). The Examiner may *not*, because he may doubt that the invention is patentable, resort to speculation, unfounded assumptions, or hindsight reconstruction to supply deficiencies in his required factual basis. *Id.*

Also, a prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. Furthermore, in determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

Hohmann, Jr. teaches that "[i]f a switching unit 91 does not detect the adjustment signals from a controller unit 67 or 77 for a specified interval, it determines that the associated detector 51 or 53 is blocked. Under these conditions, the switching control 91 switches the adjustment signals from the controller unit associated with the unblocked detector to the solenoid valve associated with the block detector so that both of the solenoid valves then receive the adjustment signal generated from the unblocked detector." Col. 6, lines 18-26. Therefore, Hohmann, Jr. teaches the use of only elevation detectors to control the position of the ends of the tool.

Clearly, Hohmann, Jr. fails to disclose or suggest either the use of "a pair of laser receivers and a gravity-base cross slope sensor" or "using the gravity-based cross slope sensor when one of the laser receivers loses reception of the elevational reference to provide a relative measurement of the interrupted laser receiver" as recited by claim 1. Hohmann, Jr. does not disclose or suggest either the use of a pair of elevation receivers and a sensor for sensing slope of a screed head, or a control circuit "controlling the hydraulically movable ends of the screed head using the third signal from the sensor and one of the first and signal signals from the elevation receivers when the other of the first and second signals is not available" as recited by claims 3 and 9. Hohmann, Jr. does not disclose or suggest "sensing slope of the tool along it length" and "controlling the elevational positions of the ends of the tool using the sensed position of one of the ends of the tool and the sensed orientation of the tool along its length from one end to the other when such positions are not both know" as recited by claim 13. The fact that Hohmann, Jr. also does not disclose maintaining the screed head in an orientation approximately parallel with a desired transverse slope, only further proves that the above noted limitations of the claims are missing from the teachings of Hohmann, Jr.

The Examiner then points to Clegg for teaching a fully automated earth-working machine and method of controlling the transverse cross-slope of a leveling implement utilizing multiple sensor system. The Examiner also points to a general statement provided in the art (Clegg in Col. 8, lines 10-15) as the basis for teaching that the slope sensor may be used as an alternative

sensor upon losing reception by one of the laser receivers, such as in a column block situation, to maintain the position of the tool. Clearly, such a general statement as applied by the Examiner in formulating this rejections, overreaches by including knowledge gleaned from applicant's and fails to take into account only the knowledge which was within the level of one of ordinary skill in the art at the time the claimed invention was made.

When Clegg is read fully, the passage cited by the Examiner for providing the motivation to modify the cited references as suggested, discloses using two or three types of signal generating devices for the purpose of determining distance, location, elevation and/or heading of the earth mover. See in particular, column 7, line 54-column 8, line 27, which is the paragraph to which the above general statement of desirability is pulled from, and thus in context refers specifically to the earth mover and not the leveling implement. Using this general statement out of context to provide the motivation of combining a number of sensing devices to control a leveling implement, and to configure a system to have one sensor take over for a different type of sensor when such a sensor is not producing a control signal, does not satisfy the requirement of considering the prior art reference in its entirety.

In regards to the control of the leveling implement, Clegg clearly discloses that "[t]he cross slope of the cut is determined by data input into the system from engineering plans and is controlled by the servo controller 140 which controls both elevation and cross slope angle through a pair of hydraulic rams 34a and 34b, the actual cross slope angle at which the grading blade is cutting being measured by a[sic.] cross-slope detector 35, the output of which is encoded in digital form in encoder 35a, or simply reported in digital form, or the digital comparator computer or central processing unit for the system shown at 120." Col. 11, lines 55-65. Accordingly, the cross-slope detector provides feed back to the processor that the actual cross-slope is substantially equal to the cross-slope data that was inputted into the system. Clegg, however, is silent on using a gravity base sensor or any alternative sensor to control the height of the ends of the blade upon losing reception by one of the laser receivers. For that reason, one

skilled in the art is provided with no guidance as to how a lost of the laser reference by one of the laser received is handled. Accordingly, Clegg fails cure the above noted deficiencies in Hohmann, Jr. to the claims.

Furthermore, even if the teaches of Hohmann, Jr, and Clegg were combined, the resulting combination would not produce the claimed invention. As Clegg is silent on how to handle a lose of an implement control signal, the resulting combination would be the screed of Hohmann, Jr. with the integrated grading system of Clegg, which handles a column block situation as disclosed by Hohmann, Jr. This is not the recited invention of claims 3-5, 7-11 and 13-37.

Also none of the remaining cited references help to cure the above noted deficiency in the cited combination of the prior art, and therefore do not produce the recited invention of the remaining claims. Burgin is cited for teaching gravity-based cross-slope sensors. Burgin also is silent on using an alternative sensor upon losing reception by one of the laser receivers. Heiser et al.is cited for teaching a pendulum type cross-slope sensor. Heise et al., likewise, is silent on using an alternative sensor upon losing reception by one of the laser receivers. Accordingly, although the above teachings of Clegg and Hohmann, Jr. disclose the use of a pair of laser receivers and a slope sensor for positioning a tool, and Burgin and Heiser et al, particular types of cross slope sensors, there is absolutely no teaching or suggestion in the cited art that the slope sensor may be used as an alternative sensor upon losing reception by one of the laser receivers, such as in a column block situation, to maintain the position of the tool. Accordingly, the resulting combination would be the screed of Hohmann, Jr. with the integrated grading system of Clegg having either the gravity-based cross-slope sensors of Burgin or the pendulum type cross-slope sensor of Heiser et al., which handles a column block situation as disclosed by Hohmann, Jr. This is not the recited invention of claims 1-2, 6, and 12.

As none of the above cited reference, individually or in combination, teach or suggest all of the claim limitations as pointed out above, the applicants believe and assert that the Examiner

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has failed to establish a *prima facie* case of obviousness.

The applicants respectfully request in view of the above noted deficiencies in the prior art that the obviousness rejections to independent claims 1, 3, 9 and 13, and the claims that depended therefrom, be withdrawn. The Examiner is encouraged to contact the undersigned to resolve efficiently any formal matters or to discuss any aspects of the application or of this response. Otherwise, early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,
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